Air Quality
TIER II OPERATING PERMIT

State of Idaho
Department of Environmental Quality

PERMIT No.: T2-050508
FACILITY ID No.: 037-00001
AQCR: 63 **CLASS:** SM
SIC: 1061 **ZONE:** 11
UTM COORDINATE (km): 694.0 , 4912.0

1. **PERMITTEE**
Thompson Creek Mining Company

2. **PROJECT**
Operating Permit Renewal for Molybdenum Mine and Mill

3. **MAILING ADDRESS**	**CITY**	**STATE**	**ZIP**
P.O. Box 62	Clayton	Idaho	83227

4. **FACILITY CONTACT**	**TITLE**	**TELEPHONE**
Bert Doughty	Environmental Manager	208-838-2200

5. **RESPONSIBLE OFFICIAL**	**TITLE**	**TELEPHONE**
Kent Watson	Vice President	208-838-2200

6. **EXACT PLANT LOCATION**	**COUNTY**
2.5 Miles north of Highway 75 between Thompson Creek and Squaw Creek	Custer

7. **GENERAL NATURE OF BUSINESS & KINDS OF PRODUCTS**
Molybdenum Mining

8. **PERMIT AUTHORITY**

This permit is issued according to the Rules for the Control of Air Pollution in Idaho, IDAPA 58.01.01.400 through 410, and pertains only to emissions of air contaminants regulated by the state of Idaho and to the sources specifically allowed to be operated by this permit.

This permit has been granted on the basis of design information presented with its application. Changes in design, equipment or operations may be considered a modification. Modifications are subject to DEQ review in accordance with IDAPA 58.01.01.200 through 228 of the Rules for the Control of Air Pollution in Idaho.

DAN PITMAN, PERMIT WRITER
DEPARTMENT OF ENVIRONMENTAL QUALITY

MIKE SIMON, STATIONARY SOURCE PROGRAM MANAGER
DEPARTMENT OF ENVIRONMENTAL QUALITY

Date Issued:	PROPOSED
Date Modified/Revised:	
Date Expires:	

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Acronyms, Units, and Chemical Nomenclatures

acfm	actual cubic feet per minute
AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
Btu	British thermal unit
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EPA	U.S. Environmental Protection Agency
gpm	gallons per minute
gr	grain (1 lb = 7,000 grains)
HAPs	hazardous air pollutants
hp	horsepower
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometer
lb/hr	pound per hour
m	meter(s)
MMBtu	million British thermal units
NSPS	New Source Performance Standards
PM	particulate matter
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SM	synthetic minor
T/yr	tons per year
UTM	Universal Transverse Mercator
VOC	volatile organic compound

1. TIER II OPERATING PERMIT SCOPE

Purpose

1.1 The purpose of this permit action is to renew the Tier II operating permit.

1.2 This Tier II operating permit renewal replaces Tier II Operating Permit No. 037-00001, issued December 8, 1999, the terms and conditions of which shall no longer apply:

Regulated Sources

1.3 Table 1.1 lists all sources of regulated emissions in this permit.

Table 1.1 SUMMARY OF REGULATED SOURCES

Permit Section	Source Description	Emissions Control(s)
3	Portable Crusher Manufacturer: Pioneer Model: 2036	Reasonable Control
4	Primary Crusher Manufacturer: GATX-Fuller Type: Gyratory Operating Capacity: 4,450 ton/hr	Baghouse Manufacturer: American Air Filter Model: Jet Pulse modular Fabripak
4	Overland Conveyor Transfer Manufacturer: GATX-Fuller	Baghouse Manufacturer: American Air Filter Model: Jet Pulse modular Fabripak
5	East and West Ore Feeders Type: Apron Feeders	Wet Scrubber Manufacturer: Ducon Model: Model IV
6	Holoflite Dryer #1 Manufacturer: Holo Flite Model: D-1216-5	Wet Scrubber Manufacturer: Luftrol Model: KVS10 ESP Manufacturer: United Air Specialists Model: SH-10
7	Lube Grade Dryer Stack 1) Holoflite Dryer #2 Manufacturer: Joy-Denver Model: D1216-5 2) Rotary Kiln Dryer Manufacturer: Christian Model: 12-13-16-UNI	Holoflite Dryer #2 and the Rotary Kiln Dryer each have a dedicated wet scrubber then each vent gas stream is combined a sent through an ESP Holoflite Dryer #2 Wet Scrubber Manufacturer: Luftrol Model: KVS10 Rotary Kiln Dryer Wet Scrubber Manufacturer: Luftrol Model: KVS11 Holoflite Dryer #2 & Rotary Kiln Dryer ESP Manufacturer: United Air Specialists Model: SH-10

8	Jet Mill Pneumatic mill Manufacturer: Pulvajet Mill Model: Aljet Model 810 CIHL	Baghouse Manufacturer: MikroPulsaire Model: 36-S-10-30
8	Tech Fine Packaging Bin High Purity Molybdenum Packaging	Baghouse Manufacturer: Mag-Pac Model: 52-65
8	Pancake Mill Feed Bin Pneumatically Convey High Purity Molybdenum	Baghouse Manufacturer: American Air Filter Model: AR35
8	Super Fine Packaging Bin & Pancake Mill Manufacturer: Jet Pulverizer Model: Micron-Master	Baghouse Manufacturer: Mag-Pac Model: 52-65
8	Pebble Lime Baghouse Pneumatic transport system	Baghouse Manufacturer: Dalamate
9	Electrical Generator Sets Motivator Generator Mill Auxiliary Generator Pumpback Generator Tailings Pumps Generator	None
10	Leach Plant	Caustic Wet Scrubber
2[1]	Boiler #1 Manufacturer: York Shipply Fuel Usage: 33 gallons per hour of distillate fuel oil	None
2[1]	Hot Oil Boiler Manufacturer: Parker Fuel Usage: 13.5 gallons per hour of distillate fuel oil	None
2[1]	Waste Oil Heaters 4 units Fuel Usage: 3.6 gallons per hour for each unit	None

1) Permit conditions are only included in the Facility-Wide permit conditions because emission unit specific permit conditions are not required.

2. FACILITY-WIDE CONDITIONS

Fugitive Emissions

2.1 All reasonable precautions shall be taken to prevent PM from becoming airborne in accordance with IDAPA 58.01.01.650-651. In determining what is reasonable, considerations will be given to factors such as the proximity of dust-emitting operations to human habitations and/or activities and atmospheric conditions that might affect the movement of particulate matter. Some of the reasonable precautions include, but are not limited to, the following:

- Use, where practical, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of lands.
- Application, where practical, of asphalt, oil, water, or suitable chemicals to, or covering of, dirt roads, material stockpiles, and other surfaces which can create dust.
- Installation and use, where practical, of hoods, fans, and fabric filters or equivalent systems to enclose and vent the handling of dusty materials. Adequate containment methods should be employed during sandblasting or other operations.
- Covering, where practical, of open-bodied trucks transporting materials likely to give rise to airborne dusts.
- Paving of roadways and their maintenance in a clean condition, where practical.
- Prompt removal of earth or other stored material from streets, where practical.

2.2 The permittee shall monitor and maintain records of the frequency and the method(s) used (i.e., water, chemical dust suppressants, etc.) to reasonably control fugitive emissions.

2.3 The permittee shall maintain records of all fugitive dust complaints received. The permittee shall take appropriate corrective action as expeditiously as practicable after receipt of a valid complaint. The records shall include, at a minimum, the date that each complaint was received and a description of the following: the complaint, the permittee's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.

2.4 The permittee shall conduct a quarterly facility-wide inspection of potential sources of fugitive emissions, during daylight hours and under normal operating conditions to ensure that the methods used to reasonably control fugitive emissions are effective. If fugitive emissions are not being reasonably controlled, the permittee shall take corrective action as expeditiously as practicable. The permittee shall maintain records of the results of each fugitive emissions inspection. The records shall include, at a minimum, the date of each inspection and a description of the following: the permittee's assessment of the conditions existing at the time fugitive emissions were present (If observed), any corrective action taken in response to the fugitive emissions, and the date the corrective action was taken.

Odors

2.5 The permittee shall not allow, suffer, cause, or permit the emission of odorous gases, liquids, or solids to the atmosphere in such quantities as to cause air pollution.

2.6 The permittee shall maintain records of all odor complaints received. If the complaint has merit, the permittee shall take appropriate corrective action as expeditiously as practicable. The records shall include, at a minimum, the date that each complaint was received and a description of the following: the complaint, the permittee's assessment of the validity of the complaint, any corrective action taken, and the date the corrective action was taken.

Visible Emissions

2.7 The permittee shall not discharge any air pollutant to the atmosphere from any point of emission for a period or periods aggregating more than three minutes in any 60-minute period which is greater than 20% opacity as determined by procedures contained in IDAPA 58.01.01.625. These provisions shall not apply when the presence of uncombined water, NO_x, and/or chlorine gas is the only reason for the failure of the emission to comply with the requirements of this section.

2.8 The permittee shall conduct a quarterly facility-wide inspection of potential sources of visible emissions, during daylight hours and under normal operating conditions. The visible emissions inspection shall consist of a see/no see evaluation for each potential source. If any visible emissions are present from any point of emission, the permittee shall either take appropriate corrective action as expeditiously as practicable, or perform a Method 9 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. A minimum of 30 observations shall be recorded when conducting the opacity test. If opacity is greater than 20% for a period or periods aggregating more than three minutes in any 60-minute period, the permittee shall take all necessary corrective action and report the exceedance in accordance with IDAPA 58.01.01.130-136. The permittee shall maintain records of the results of each visible emissions inspection and each opacity test when conducted. The records shall include, at a minimum, the date and results of each inspection and test and a description of the following: the permittee's assessment of the conditions existing at the time visible emissions are present (if observed), any corrective action taken in response to the visible emissions, and the date corrective action was taken.

Open Burning

2.9 The permittee shall comply with the requirements of the Rules for Control of Open Burning, IDAPA 58.01.01.600-616.

Reports and Certifications

2.10 Any reporting required by this permit, including, but not limited to, records, monitoring data, supporting information, requests for confidential treatment, notifications of intent to test, testing reports, or compliance certifications, shall contain a certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete. Any reporting required by this permit shall be submitted to the following address:

Air Quality Permit Compliance
Department of Environmental Quality
Idaho Falls Regional Office
900 N. Skyline, Suite B
Idaho Falls, ID 83402
Phone: (208) 528-2650
Fax: (208) 528-2695

Obligation to Comply

2.11 Receiving a Tier II operating permit shall not relieve any owner or operator of the responsibility to comply with all applicable local, state, and federal rules and regulations.

Fuel-burning Equipment

2.12 The permittee shall not discharge to the atmosphere from any fuel-burning equipment PM in excess of 0.015 gr/dscf of effluent gas corrected to 3% oxygen by volume for gas, 0.050 gr/dscf of effluent gas corrected to 3% oxygen by volume for liquid.

Sulfur Content

2.13 No person shall sell, distribute, use, or make available for use any distillate fuel oil containing more than the following percentages of sulfur:

- ASTM Grade 1 fuel oil - 0.3% by weight.
- ASTM Grade 2 fuel oil - 0.5% by weight.

2.14 The permittee shall maintain documentation of supplier verification of distillate fuel oil content on an as-received basis.

3. PORTABLE CRUSHER

3.1 Process Description

Thompson Creek operates a crusher that is portable within the mines boundaries. The crusher does not leave the mine's property. The crusher is used primary for preparing aggregate for on-site road projects. The portable crusher consists of a primary and secondary screen, primary and secondary crusher and conveying operations.

3.2 Emission Control Description

Table 3.1 PORTABLE CRUSHER DESCRIPTION

Emissions Unit(s) / Process(es)	Emissions Control Device	Emissions Point
Portable Crusher Equipment • Primary and Secondary Screen • Primary and Secondary Crushers • Conveyor belts	Water spray on primary crusher. Reasonable control of fugitive dust on all other equipment	Portable Crusher Area

Operating Requirements

3.3 Throughput Limits

The portable rock crusher shall not process more than 700,000 tons per any consecutive 12-calendar months.

3.4 Additional Requirement

Fugitive emissions resulting from the portable crushing operations shall be reasonably controlled as required in IDAPA 58.01.01.650 and 58.01.01.651including, but not limited to, using water spray to control fugitive emissions resulting from the primary crusher. On days with precipitation or on which the ambient temperature is below freezing (32 degrees Fahrenheit), the use of water sprays is not required.

Monitoring and Recordkeeping Requirements

3.5 Monitoring Requirement

The permittee shall monitor and record the tons of material processed through the portable crusher each month and for the most recent consecutive 12-calendar month period. The permittee shall maintain the records on-site for a period of five years and they shall be made available to DEQ representatives upon request.

4. PRIMARY CRUSHER AND OVERLAND CONVEYOR TRANSFER

4.1 Process Description

Mined ore is transported to the primary gyratory crusher by haul trucks. Primary crushing reduces the ore from 24 inches or greater in diameter to less than 8 inches. Emissions from the primary crusher are controlled by a baghouse. The ore from the primary crusher is transported by conveyor belt from an elevation of 7,200 feet to an elevation of about 7,500 feet. The overland conveyor system includes a transfer point, emission from this transfer point are controlled by a baghouse.

4.2 Emission Control Description

Table 4.1 PRIMARY CRUHSER AND OVERLAND CONVEYOR DESCRIPTION

Emissions Unit(s) / Process(es)	Emissions Control Device
Primary Crusher	Baghouse
Overland Conveyor Transfer Point	Baghouse

Emissions Limits

4.3 Emission Limits

Emissions from the Primary Crusher and Overland Conveyor Transfer Point baghouse stacks shall not exceed any corresponding emissions rate limits listed in Table 4.2.

Table 4.2 PRIMARY CRUSHER OVERLAND & CONVEYOR EMISSIONS LIMITS[1]

Source Description	PM_{10}	
	lb/day[2]	T/yr[3]
Primary Crusher	53.5	4.1
Overland Conveyor Transfer Point	64.1	4.9

1) In absence of any other creditable evidence, compliance is assured by complying with this permits operating, monitoring and record keeping requirements
2) Pounds per calendar day
3) Tons per any consecutive 12-calendar month period

Operating Requirements

4.4 Throughput Limits

Throughput of ore to the primary crusher and the overland conveyor shall not exceed:

- 106,800 tons per calendar day;
- 16,242,500 tons per any consecutive 12- calendar month period.

4.5 Additional Requirement

Within 60 days of permit issuance, the permittee shall have developed an O&M manual for the primary crusher and overland conveyor transfer point baghouses. The O&M manual shall describe the procedures that will be followed to comply with General Provision 2 and the manufacturer specifications for the baghouses. The manual shall contain, at a minimum, requirements for semi-annual inspections of the dust

collectors. The inspections shall include, but not be limited to, checking the bags for structural integrity and that they are appropriately secured in place. The results of the inspection shall be recorded; if any maintenance is performed a description of the maintenance performed shall also be recorded. The manual shall remain on site at all times and shall be made available to DEQ representatives upon request.

The operating and monitoring requirements specified in the O&M manual are incorporated by reference to this permit and are enforceable permit conditions.

The O&M manual shall be submitted to DEQ at the following address. Any changes made to the O&M manual shall also be submitted.

Air Quality Permit Compliance
Department of Environmental Quality
Idaho Falls Regional Office
900 N. Skyline, Suite B
Idaho Falls, ID 83402

Monitoring and Recordkeeping Requirements

4.6 Monitoring Requirement

The permittee shall monitor and record the throughput of ore to the primary crusher and the overland conveyor:

- Each calendar day;
- Each month the throughput during the most recent consecutive 12-calendar month period.

5. EAST AND WEST ORE FEEDERS

5.1 Process Description

Ore is dropped from the overland conveyor at the mill ore stock pick. Two apron feeders, the East and West Ore Feeders, then transfer the ore from the bottom of the stockpile into the grinding process.

5.2 Emission Control Description

Table 5.1 EAST AND WEST ORE FEEDERS DESCRIPTION

Emissions Unit(s) / Process(es)	Emissions Control Device
East Ore Feeders	Venturi Scrubber
West Ore Feeders	Venturi Scrubber

Emissions Limits

5.3 Emission Limits

The combined PM_{10} emissions from the East and West Ore Feeder venturi scrubber stack shall not exceed:

- 5 pounds per hour (as determined by complying with this permits operating requirements or by a performance test conducted in accordance with IDAPA 58.01.01.157);
- 21.9 tons any consecutive 12-calendar month period.

Operating Requirements

5.4 Throughput Limits

The combined throughput of ore East and West Ore Feeders shall not exceed:

- 40,000 tons per calendar day;
- 14,600,000 tons per any consecutive 12- calendar month period

5.5 Wet Scrubber Requirements

The permittee shall install and operate a venturi scrubber to control emissions from the East and West Ore Feeder.

The scrubbers operating parameters shall be maintained as follows:

- the pressure drop across each scrubber shall be maintained at or above 6.0 inches of water.
- the scrubbing liquid flow rate to each scrubber shall be equal to or greater than 14.0 gallons per minute.

As an alternative to the operating parameters specified in this permit condition, the permittee may establish new operating parameters by conducting a performance test that demonstrates compliance with the PM_{10} pound per hour emission limit for the East and West Ore Feeder venturi stack while operating at the alternative operating parameters. The performance test shall be conducted in accordance with the Test Methods and Procedures specified in the Rules (IDAPA 58.01.01.157). All operating parameters specified in this permit condition shall be monitored and recorded a minimum of four times during each test run. The permittee shall only operate below the minimum values specified in this permit condition during the performance test. Upon receiving DEQ written approval, the permittee shall operate in accordance with those DEQ approved operating parameters. A copy of DEQ's approval shall be maintained on-site with a copy of this permit.

The permittee shall operate the following monitoring devices:

- a device for the continuous measurement of the pressure drop across the scrubber in inches of water.

- a device for the continuous measurement of the scrubbing liquid flow rate to the wet scrubber in gallons per minute.

Monitoring and Recordkeeping Requirements

5.6 Throughput Monitoring Requirement

The permittee shall monitor and record the combined throughput of ore (in tons) to the East and West Ore Feeder:

- each calendar day;
- each month the throughput during the most recent consecutive 12-calendar month period

5.7 East and West Ore Feeder Wet Scrubber Monitoring Requirement

The permittee shall monitor and record the following scrubber operating parameters once every two weeks:

- the pressure drop across the scrubber in inches of water;
- the scrubbing liquid flow rate to the wet scrubber in gallons per minute.

6. HOLOFLITE DRYER #1

6.1 Process Description

Slurry from the floatation concentrator is thickened in a tank then filtered. The wet filter cake is dried in the Holoflite Dryer #1 to a moisture content of 5-8% water.

6.2 Emission Control Description

Table 6.1 HOLOFLITE DRYER #1 DESCRIPTION

Emissions Unit	Emissions Control Devices
Holoflite Dryer #1 Manufacturer: Holoflite Model: D-1216-5	Wet Scrubber & then ESP Scrubber Manufacturer: Ducon Model: IV, Multivane ESP Manufacturer: United Air Specialists Model: SH-10

Operating Requirements

6.3 Throughput to Holoflite Dryer #1

The throughput of Holoflite Dryer #1 shall not exceed:

- 247.7 tons per calendar day;
- 81,030 tons per any consecutive 12- calendar month period.

6.4 Wet Scrubber

The scrubbing liquid flow rate shall be equal to or greater than 6.0 gallons per minute.

Monitoring and Recordkeeping Requirements

6.5 Electrostatic Precipitator (ESP) Annual Inspection

At least once each year, the permittee shall inspect the ESP for physical degradation that could affect the performance of the ESP. At a minimum, the permittee shall check the following components of the ESP for damage or other condition that would reduce the efficiency:

- Discharge Electrodes
- Collection Electrodes
- Electrode alignment
- Rapper mechanisms for the electrodes
- Transformer-rectifier sets

The permittee shall record in a log the results of the inspection. The log shall contain the date of inspection, the identity of the inspector, the results of each inspection, and the date of any repairs made or corrective action taken.

6.6 Wet Scrubber Monitoring Requirement

The permittee shall monitor and record the scrubbing liquid flow rate in gallons per minute operating once every two weeks.

6.7 Throughput Monitoring Requirement

The permittee shall monitor and record the tons of throughput to the Holoflite Dryer #1:

- Each calendar day;
- Each month the throughput during the most recent consecutive 12-calendar month period.

7. HOLOFLITE DRYER #2 & ROTARY KILNS (LUBE GRADE DRYER STACK)

7.1 Process Description

High purity molybdenum material is produced by an advanced floatation and cleaning process, after cleaning the high purity molybdenum is dewatered then dried in Holoflite Dryer #2. From Holoflite Dryer #2 the high purity molybdenum is electrically-heated in one of two rotary kiln dryers where most of the remaining moisture is removed. Each dryer is controlled by its own wet scrubber, then the exhaust stream is combined and sent through an electrostatic precipitator (ESP) and out the "Lube Grade Dryer Stack".

7.2 Emission Control Description

Table 7.1 HOLOFLITE DRYER #2 & ROTARY KILNS DESCRIPTION

Emissions Unit	Emissions Control Devices
Holoflite Dryer #2 Manufacturer: Joy-Denver Model: D-1216-5	Wet Scrubber & then ESP Scrubber Manufacturer: Luftrol Model: KVS10 and KVS11
Rotary Kiln Dryers (2) Manufacturer: Christian Model: 12-13-16-UNI	ESP Manufacturer: United Air Specialists Model: SH-10

Emissions Limits

7.3 New Source Performance Standard (NSPS) Stack Emission Limits

The permittee shall not allow to be discharged into the atmosphere from the Lube Grade Dryer stack any stack emissions that contain particulate matter in excess of 0.05 grams per dry standard cubic meter in accordance with 40 CFR 60.382(a)(1).

7.4 New Source Performance Standard (NSPS) Fugitive Emission Opacity Limit

The permittee shall not allow to be discharged from the any affected emission unit (as defined by 40 CFR 60.380), which includes the rotary kilns and the Holoflite Dryer #2, any process fugitive emissions that exceed 10 percent opacity in accordance with 40 CFR 60.382(a)(2)(b).

Operating Requirements

7.5 Emissions Controls

Emissions from Holoflite Dryer #2 and the rotary kilns shall be controlled by a wet scrubber and an electrostatic precipitator.

7.6 Throughput Limitation

The Holoflite Dryer #2 and rotary kilns shall process no more than 24 tons per calendar day.

Monitoring and Recordkeeping Requirements

7.7 Throughput Monitoring

The permittee shall monitor and record the throughput to Holoflite Dryer #2 and the rotary kilns each calendar day.

7.8 Scrubber Monitoring in Accordance with 40 CFR 60.384

7.8.1 The permittee shall install, calibrate, maintain, and operate a monitoring device for the continuous measurement of the change in pressure of the gas stream through the scrubber and a device for the continuous measurement of the scrubbing liquid flow rate to the scrubber. The pressure measuring device must be certified by the manufacturer to be accurate within plus or minus one inch of water and must be calibrated on an annual basis in accordance with manufacture's instructions. The scrubbing liquid flow rate monitor must be certified by the manufacturer to be accurate within plus or minus 5% of the design scrubbing liquid flow rate and must be calibrated on at least an annual basis in accordance with the manufacture's instructions.

7.8.2 The permittee shall record the pressure of the gas stream across the scrubber and the scrubbing liquid flow rate once each calendar week.

7.9 Reporting in Accordance with 40 CFR 60.385

The permittee shall submit semiannual reports to DEQ of occurrences when the measurements of the scrubber pressure loss or liquid flow rate differ by more than plus or minus 30% from the average obtained during the most recent performance test. The reports shall be postmarked within 30 days following the end of the second and fourth calendar quarters.

7.10 Source Test Records

The permittee shall maintain a copy of the most recent source test report conducted on the Holoflite #2 Dryer Stack that contains the pressure drop and scrubbing liquid flow rate to the wet scrubber measured during the test and make the report available to DEQ representatives upon request..

8. HIGH PURTIY MOLYBDENUM MILLING & PACKAGING/LIME SILO

8.1 Process Description

High purity molybdenum (HPM) from the Holoflite Dryer #2 and/or Rotary Kilns is either packaged as final product or processed through the Jet Mill to produce finer grades of HPM. Super fine molybdenum is produced by processing HPM through the Jet Mill and then through the Pancake Mill.

Five different grades of HPM are processed and packaged:

- Large Particle HPM
- Grade A
- Tech Grade
- Tech Fine Grade
- Super Fine Grade

Large Particle HPM is produced by processing the HPM through Holoflite Dryer #2 and the Rotary Kilns to the tech fine bin from which the product is packaged.

Grade A HPM is produced by processing the HPM through Holoflite Dryer #2 to the tech fine bin from which the product is packaged.

Tech Grade and Tech Fine Grade HPM are produced by processing the HPM through Holoflite Dryer #2, Rotary Kilns and the Jet Mill. In the Jet Mill different sizes of material (Tech and Tech Fine Grades) are produced by changing HPM throughput rates and air pressure.

Super Fine Grade HPM is produced by processing Tech Grades of HPM through a Pancake Mill.

Pebble lime is delivered to the facility and pneumatically conveyed to the lime silo. Pebble lime is mixed with water to form slurry and fed into the SAG mill, neutralization tank, or the tailings line.

8.2 Emission Control Description

Table 8.1 MILLING AND PACKAGING DESCRIPTION

Emissions Unit(s) / Process(es)	Emissions Control Device
Jet Mill Feed Bin & Jet Mill	Jet Mill Baghouse Manufacturer: Mikro Pulsaire Model: 36-S-10-30
Tech Fine Packaging Bin	Tech Fine Packaging Baghouse Manufacturer: Mag-Pac Model: 52-65
Pancake Mill Feed Bin & Pancake Mill	Pancake Feed Bin Baghouse Manufacturer: American Air Filter Model: AR35
Super Fine Packaging Bin	Super Fine Packaging Bin Baghouse Manufacturer: Mag-Pac Model: 52-65
Lime Silo	Lime Silo Baghouse Manufacturer: Dalamate

Emissions Limits

8.3 New Source Performance Standard (NSPS) Stack Emission Limits

The permittee shall not allow to be discharged into the atmosphere from the Jet Mill baghouse stack, Tech Fine Packing baghouse stack, Pancake Feed Bin baghouse stack and Super Fine Packaging Bin baghouse stack any emissions that contain particulate matter in excess of 0.05 grams per dry standard cubic meter in accordance with 40 CFR 60.382(a)(1) or exhibit greater than 7 percent opacity in accordance with 40 CFR 60.382(a)(2).

8.4 New Source Performance Standard (NSPS) Fugitive Emission Opacity Limit

The permittee shall not allow to be discharged from the any affected emission unit (as defined by 40 CFR 60.380 which includes the bins, bucket elevators, and enclosed storage area), any process fugitive emissions that exceed 10 percent opacity in accordance with 40 CFR 60.382(a)(2)(b).

Operating Requirements

8.5 Baghouse O&M

Within 60 days of permit issuance, the permittee shall have developed an Operations and Maintenance (O&M) manual for the baghouses which control the PM and PM_{10} emissions from the Jet Mill, Tech Fine Packing, Pancake Feed Bin, Super Fine Packaging Bin and Lime Silo. The O&M manual shall describe the procedures that will be followed to comply with General Provision 2 and the manufacturer specifications for the baghouse. The manual shall contain, at a minimum, requirements for semiannual inspection of the baghouses. The inspections shall include, but not be limited to, checking the bags or cartridges for structural integrity and that they are appropriately secured in place. The manual shall remain on site at all times and shall be made available to DEQ representatives upon request.

The operating and monitoring requirements specified in the O&M manual are incorporated by reference

to this permit and are enforceable permit conditions.

The O&M manual shall be submitted to DEQ at the following address. Any changes made to the O&M manual shall also be submitted.

Air Quality Permit Compliance
Department of Environmental Quality
Idaho Falls Regional Office
900 N. Skyline, Suite B
Idaho Falls, ID 83402

Monitoring and Recordkeeping Requirements

8.6 Baghouse Inspections

The permittee shall maintain documentation on site of the results of the semiannual baghouse inspections required by the Baghouse Operations and Maintenance Manual. The results of the inspection shall be documented and shall at minimum include statements about the structural integrity of the bags and whether they are appropriately secured in place. Monitoring shall comply with Tier II Operating Permit General Provision 7.

9. DIESEL ENGINE ELECTRICAL GENERATORS

9.1 Process Description

The permittee maintains four diesel engine powered electrical generators. The generators provide power to pumps, electrical motors and other equipment during emergency situations.

9.2 Emission Control Description

Table 9.1 EMERGENCY GENERATORS DESCRIPTION

Emissions Unit(s) / Process(es)	Emissions Control Device
Motivator Generator Manufacturer: Cummins Installation Date: 1981 Fuel Type: Diesel Fuel Horse Poper: 1490	None
Mill Auxiliary Generator Manufacturer: Cummins Installation Date: 1981 Fuel Type: Diesel Fuel Horse Power: 265	None
Pumpback Generator Manufacturer: Cummins Installation Date: 1981 Fuel Type: Diesel Fuel Horse Power: 450	None
Tailings Pumps Generator Manufacturer: Cummins Installation Date: 1996 Fuel Type: Diesel Fuel Horse Power: 1272	None

Operating Requirements

9.3 Generator Engine Hours of Operation

9.3.1 The permittee shall not operate the Tailings Pump, Mill Auxiliary, or Pump Back emergency generators more than 500 hours per calendar year each.

9.3.2 The permittee shall not operate the Motivator emergency generator more than 3,000 hours per calendar year.

Monitoring and Recordkeeping Requirements

9.4 The permittee shall monitor and record the hours of operation of each of the generator engines each calendar month during the most recent consecutive 12-calendar month period.

10. LEACH PLANT

10.1 Process Description

Hydrochloric acid is used in the leaching process to remove lead from low grade ore. HCl fumes from the leaching processes are vented to a caustic scrubber.

10.2 Emission Control Description

Table 9.1 LEACH PLANT DESCRIPTION

Emissions Unit(s) / Process(es)	Emissions Control Device
Leach Plant	Caustic Wet Scrubber

Operating Requirements

10.3 Scrubber Operating Parameters

The permittee shall establish minimum operating thresholds for scrubbing media flow rate and pH for the Leah Plant wet scrubber. The permittee shall prepare a written document on how it will be assured that the scrubber operates consistent with the established flow rate and pH. At a minimum the document shall include monthly inspections of the scrubber to determine if the scrubbing liquid flow rate and pH are consistent with those established by the permittee.

Monitoring and Recordkeeping Requirements

10.4 Scrubber Inspections

The permittee shall maintain documentation on site of the results of the monthly inspections of the scrubbing media flow rate and pH. The results of the inspection shall be documented and comply with the monitoring and recordkeeping requirements of Tier II Operating Permit General Provision 7.

11. TIER II PERMIT TO OPERATE GENERAL PROVISIONS

General Compliance

1. The permittee has a continuing duty to comply with all terms and conditions of this permit. All emissions authorized herein shall be consistent with the terms and conditions of this permit and the Rules for the Control of Air Pollution in Idaho. The emissions of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit and the Rules for the Control of Air Pollution in Idaho, and the Environmental Protection and Health Act, Idaho Code §39-101, et seq.

[Idaho Code §39-101, et seq.]

2. The permittee shall at all times (except as provided in the Rules for the Control of Air Pollution in Idaho) maintain in good working order and operate as efficiently as practicable, all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.

[IDAPA 58.01.01.211, 5/1/94]

3. Nothing in this permit is intended to relieve or exempt the permittee from the responsibility to comply with all applicable local, state, or federal statutes, rules and regulations.

[IDAPA 58.01.01.212.01, 5/1/94]

Inspection and Entry

4. Upon presentation of credentials, the permittee shall allow DEQ or an authorized representative of DEQ to do the following:

   a. Enter upon the permittee's premises where an emissions source is located or emissions related activity is conducted, or where records are kept under conditions of this permit;

   b. Have access to and copy, at reasonable times, any records that are kept under the conditions of this permit;

   c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and

   d. As authorized by the Idaho Environmental Protection and Health Act, sample or monitor, at reasonable times, substances or parameters for the purpose of determining or ensuring compliance with this permit or applicable requirements.

[Idaho Code §39-108]

Construction and Operation Notification

5. The permittee shall furnish DEQ written notifications as follows in accordance with IDAPA 58.01.01.211:

   a. A notification of the date of initiation of construction, within five working days after occurrence;

   b. A notification of the date of any suspension of construction, if such suspension lasts for one year or more;

c. A notification of the anticipated date of initial start-up of the stationary source or facility not more than sixty days or less than thirty days prior to such date;

d. A notification of the actual date of initial start-up of the stationary source or facility within fifteen days after such date; and

e. A notification of the initial date of achieving the maximum production rate, within five working days after occurrence - production rate and date.

[IDAPA 58.01.01.211, 5/1/94]

Performance Testing

6. If performance testing (air emissions source test) is required by this permit, the permittee shall provide notice of intent to test to DEQ at least 15 days prior to the scheduled test date or shorter time period as approved by DEQ. DEQ may, at its option, have an observer present at any emissions tests conducted on a source. DEQ requests that such testing not be performed on weekends or state holidays.

   All performance testing shall be conducted in accordance with the procedures in IDAPA 58.01.01.157. Without prior DEQ approval, any alternative testing is conducted solely at the permittee's risk. If the permittee fails to obtain prior written approval by DEQ for any testing deviations, DEQ may determine that the testing does not satisfy the testing requirements. Therefore, at least 30 days prior to conducting any performance test, the permittee is encouraged to submit a performance test protocol to DEQ for approval. The written protocol shall include a description of the test method(s) to be used, an explanation of any or unusual circumstances regarding the proposed test, and the proposed test schedule for conducting and reporting the test.

   Within 30 days following the date in which a performance test required by this permit is concluded, the permittee shall submit to DEQ a performance test report. The written report shall include a description of the process, identification of the test method(s) used, equipment used, all process operating data collected during the test period, and test results, as well as raw test data and associated documentation, including any approved test protocol.

[IDAPA 58.01.01.157, 4/5/00]

Monitoring and Recordkeeping

7. The permittee shall maintain sufficient records to ensure compliance with all of the terms and conditions of this permit. Records of monitoring information shall include, but not be limited to the following: (a) the date, place, and times of sampling or measurements; (b) the date analyses were performed; (c) the company or entity that performed the analyses; (d) the analytical techniques or methods used; (e) the results of such analyses; and (f) the operating conditions existing at the time of sampling or measurement. All monitoring records and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes, but is not limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation and copies of all reports required by this permit. All records required to be maintained by this permit shall be made available in either hard copy or electronic format to DEQ representatives upon request.

[IDAPA 58.01.01.211, 5/1/94]

Excess Emissions

8. The permittee shall comply with the procedures and requirements of IDAPA 58.01.01.130-136 for excess emissions due to startup, shutdown, scheduled maintenance, safety measures, upsets and breakdowns.

[IDAPA 58.01.01.130-136, 4/5/00]

Certification

9. All documents submitted to DEQ, including, but not limited to, records, monitoring data, supporting information, requests for confidential treatment, testing reports, or compliance certification shall contain a certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete.

[IDAPA 58.01.01.123, 5/1/94]

False Statements

10. No person shall knowingly make any false statement, representation, or certification in any form, notice, or report required under this permit, or any applicable rule or order in force pursuant thereto.

[IDAPA 58.01.01.125, 3/23/98]

Tampering

11. No person shall knowingly render inaccurate any monitoring device or method required under this permit or any applicable rule or order in force pursuant thereto.

[IDAPA 58.01.01.126, 3/23/98]

Transferability

12. This permit is transferable in accordance with procedures listed in IDAPA 58.01.01.209.06.

[IDAPA 58.01.01.209.06, 4/11/06]

Severability

13. The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.